



NRG Energy, Inc.
Environmental Services
Oswego Harbor Power
261 Washington Blvd.
Oswego, NY 13126

April 6, 2000

Ms. Lara Autry
Emissions Measurement Center (MD-19)
U.S. Environmental Protection Agency
Research Triangle Park, N.C. 27711
Attn: Electric Utility Steam Generating Unit Mercury Test Program

RE: Mercury Emissions Information Collection Request/Coal-Fired Units
Speciated Mercury Emissions Testing Results
Dunkirk Power LLC
Facility Code: 0135730000-02554 Dunkirk Power Unit 2

Dear Ms. Autry:

Pursuant to EPA's Information Collection Request Part III, speciated mercury emissions testing, enclosed please find two copies each of the Dunkirk Power LLC Unit 2 Speciated Mercury Emissions Test Results.

Should you have questions related to the enclosed information, please feel free to contact me at (315) 349- 2231.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas F. Coates", written in a cursive style.

Thomas F. Coates
Regional Manager
Environmental Services
NRG Energy, Inc.

cc: B. Brombos
R. Clarke

SPECIATED MERCURY EMISSIONS TESTING

Performed For
DUNKIRK POWER LLC

At
Dunkirk Power
Unit 2
Precipitator Inlet and Outlet
Dunkirk, New York

October 12 and 13, 1999



Mostardi-Platt Associates, Inc.
A Full-Service
Environmental Consulting
Company

945 Oaklawn Avenue
Elmhurst, Illinois 60126-1012
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MOSTARDI PLATT PROJECT 94109
DATE SUBMITTED: MARCH 29, 2000

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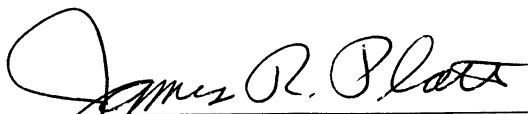
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CERTIFICATION SHEET

Having supervised and worked on the test program described in this report, and having written this report, I hereby certify the data, information, and results in this report to be accurate and true according to the methods and procedures used.

Data collected under the supervision of others is included in this report and is presumed to have been gathered in accordance with recognized standards.

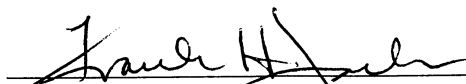
MOSTARDI-PLATT ASSOCIATES, INC.



James R. Platt

Vice President, Emissions Services

Reviewed by:



Frank H. Jarke

Manager, Analytical and Quality Assurance



SPECIATED MERCURY EMISSIONS TESTING

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1.0 INTRODUCTION

1.1 Summary of Test Program

The United States Environmental Protection Agency (USEPA), is using its authority under section 114 of the Clean Air Act, as amended, to require that selected coal-fired utility steam generating units provide certain information that will allow the USEPA to calculate the annual mercury emissions from each unit. This information will assist the USEPA Administrator in determining whether it is appropriate and necessary to regulate emissions of Hazardous Air Pollutants (HAPs) from electric utility steam generating units. The Emission Measurement Branch (EMB) of the Office of Air Quality Planning and Standards (OAQPS) oversees the emission measurement activities. MOSTARDI-PLATT ASSOCIATES, INC. (Mostardi Platt) conducted the mercury emission measurements.

The USEPA selected Dunkirk Power in Dunkirk, New York to be one of seventy-eight coal-fired utility steam generating units to conduct mercury emissions measurements. Testing was performed at Unit 2 on October 12 and 13, 1999, and was the only tested unit at this facility. Simultaneous measurements were conducted at the inlet and outlet of the precipitator. Mercury emissions were speciated into elemental, oxidized and particle-bound mercury using the Ontario-Hydro test method. Fuel samples were also collected concurrently with Ontario-Hydro samples in order to determine fuel mercury content.

1.2 Key Personnel

The key personnel who coordinated the test program and their telephone numbers are:

- | | |
|-----------------------------------|--------------|
| • Mostardi Platt, James Platt | 630-993-9000 |
| • NRG Energy, Inc., Thomas Coates | 315-349-2231 |

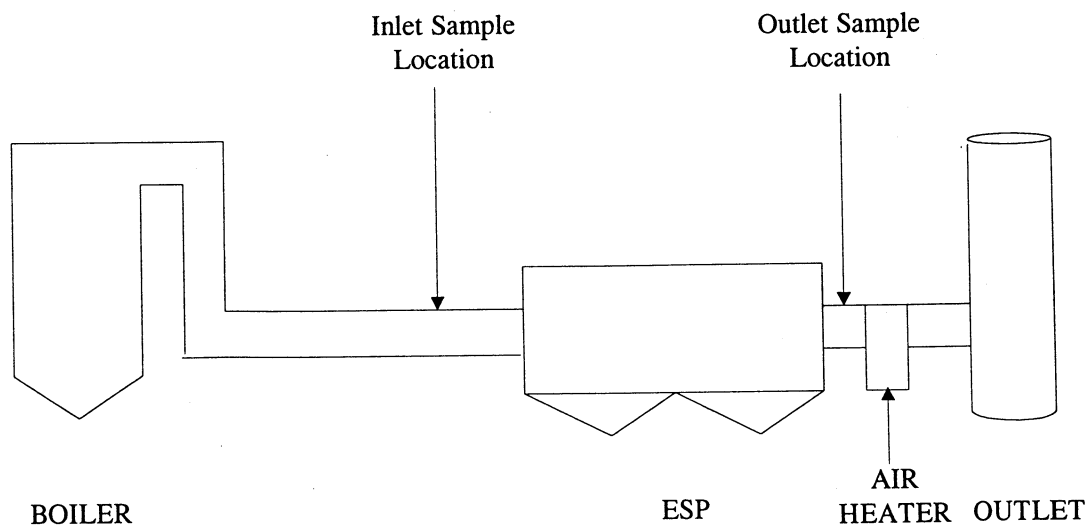
2.0 PLANT AND SAMPLING LOCATION DESCRIPTIONS

2.1 Process Description

Dunkirk Unit 2 is a pulverized coal-fired, balanced draft boiler with a name plate rating of 100 MW. Figure 2-1 shows a schematic of the boiler and pollution control equipment, including sample points.

Unit 2 is a single furnace, reheat steam boiler. The steam is converted into mechanical energy by flowing through a turbine (generator) which produces electrical power. The unit was operated at or near full load during the tests. Fuel type, boiler operation and control device operation were maintained at normal operating conditions.

Figure 2-1 Schematic of the Boiler and Pollution Control Equipment.



The following is a list of operating components for this unit:

- Combustion Engineering, tangentially-fired, coal burning boiler (manufacturer and type of boiler)
- 100 MW gross capacity (Name plate rating)

- Fuel (Blend):
 - Eastern Bituminous, Consol Mine (75%), 2% Sulfur
 - Eastern Bituminous, Cypress Mine (25%), 2% Sulfur
- SO₂ control: None
- NO_x control: Low NO_x burners and close coupled over fired air
- Hot-side electrostatic precipitator (control type and efficiency)

2.2 Control Equipment Description

Particulate emissions from the boiler are controlled by a Joy-Western hot side electrostatic precipitator with an estimated collection efficiency of 98.8%. The precipitator has two (2) chambers with one (1) cell per chamber. There are a total of seventy four (74) gas passages traversing five (5) electrical fields.

The flue gas at the inlet was approximately 580°F. At the outlet, the gas temperature was approximately 560°F and contained approximately 8 percent (8%) moisture.

2.3 Flue Gas Sampling Locations

2.3.1 Inlet Location

Inlet samples were collected at the precipitator inlet. A schematic and cross section of the inlet location are shown in Figure 2-2. This location does meet the requirements of USEPA Method 1.

The inlet test ports are on top of the duct. Vertically down sampling is required.

Two (2) inlet ducts exist. Only one (1) was traversed for mercury concentration.

2.3.2 Outlet Location

Outlet samples were collected at the precipitator outlet sample ports. A schematic and cross section of the outlet location is shown in Figure 2-3. This location does meet the requirements of USEPA Method 1.

Two (2) outlet ducts exist. Only one (1) was traversed for mercury concentration. The stack flow monitor data was used for the total unit gas volumetric flow.

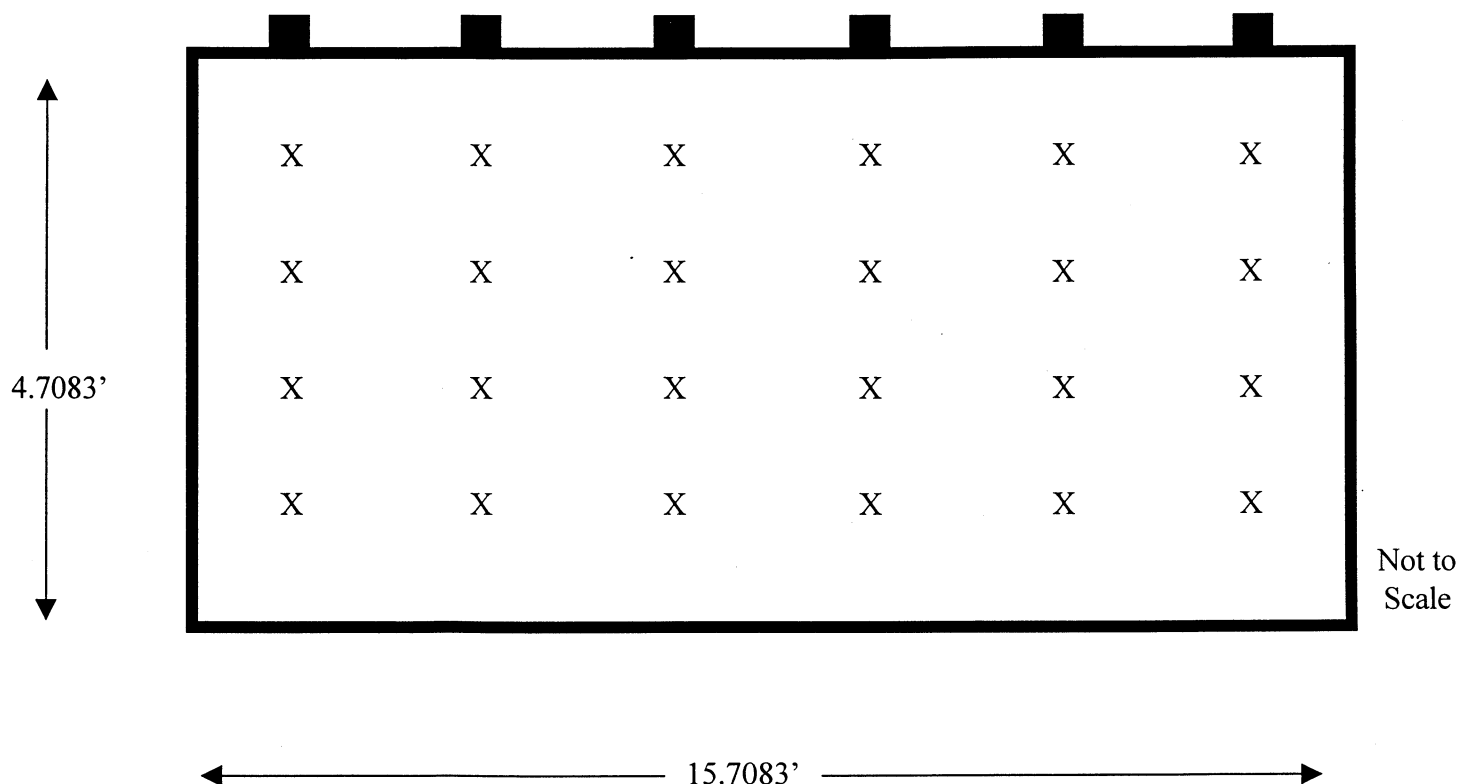
The flue gas at the outlet is above the method specification of a minimum filtration temperature of 120°C. Therefore, in stack filtration per Method 17 was used.

2.4 Fuel Sampling Location

Fuel samples were collected at the fuel feeders to each individual pulverizing mill. One sample was collected from each feeder during each test run, and the feeder samples collected during a test run were composited prior to analysis. The Mostardi-Platt Associates, Inc. test crew supervisor assisted plant personnel with the collection of fuel samples.

Figure 2-2 Schematic of the Precipitator Inlet Sampling Location

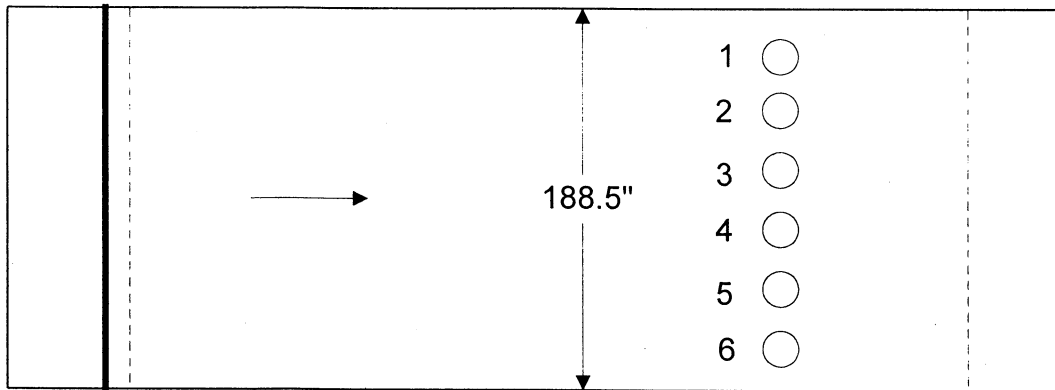
Equal Area Traverse For Rectangular Ducts (Inlet)



Job:	Dunkirk Power Dunkirk, New York		
Date:	October 12 and 13, 1999	Area:	73.96 ft ²
Unit No:	2	No. Test Ports:	6
Length:	4.7083 Feet	Tests Points per Port:	4
Width:	15.7083 Feet	Distance Between Ports:	31.42 Feet
Duct No:	Precipitator Inlet*	Distance Between Points:	1.18 Feet

*Two (2) inlet ducts exist. Only one (1) was traversed for mercury concentration.

Note: East and West Precipitator Inlets are Identical



Top

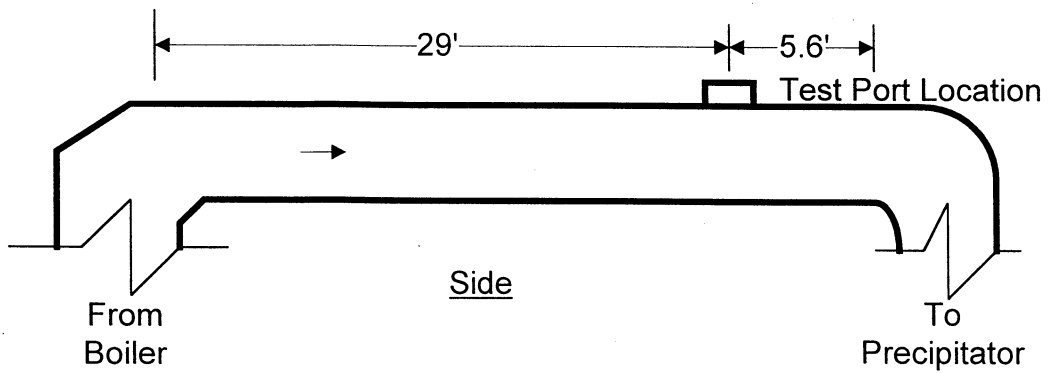
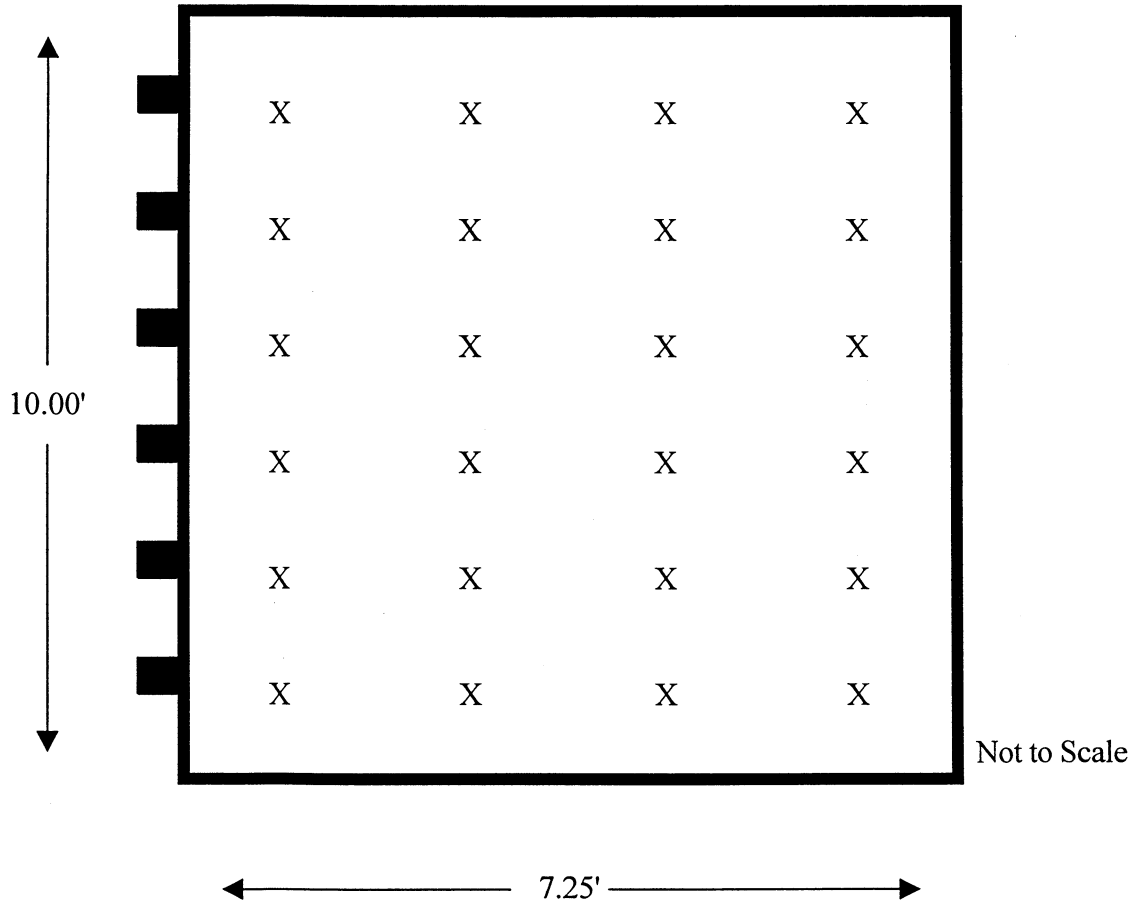


Figure 2-3 Schematic of the Precipitator Outlet Sampling Location

Equal Area Traverse For Rectangular Ducts (Outlet)



Job: Dunkirk Power
Dunkirk, New York

Date: October 12 and 13, 1999

Area: 72.50 ft²

Unit No: 2

No. Test Ports: 6

Length: 10.00 Feet

Tests Points per Port: 4

Width: 7.25 Feet

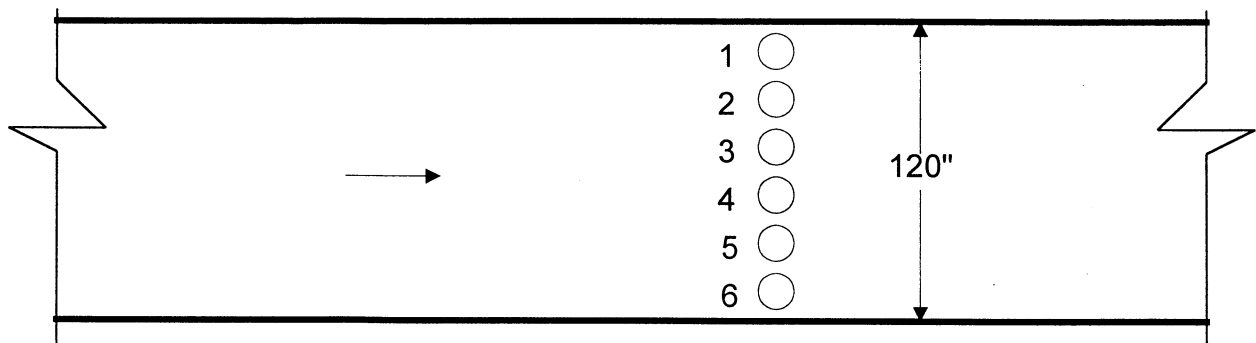
Distance Between Ports: 1.667 Feet

Duct No: Outlet*

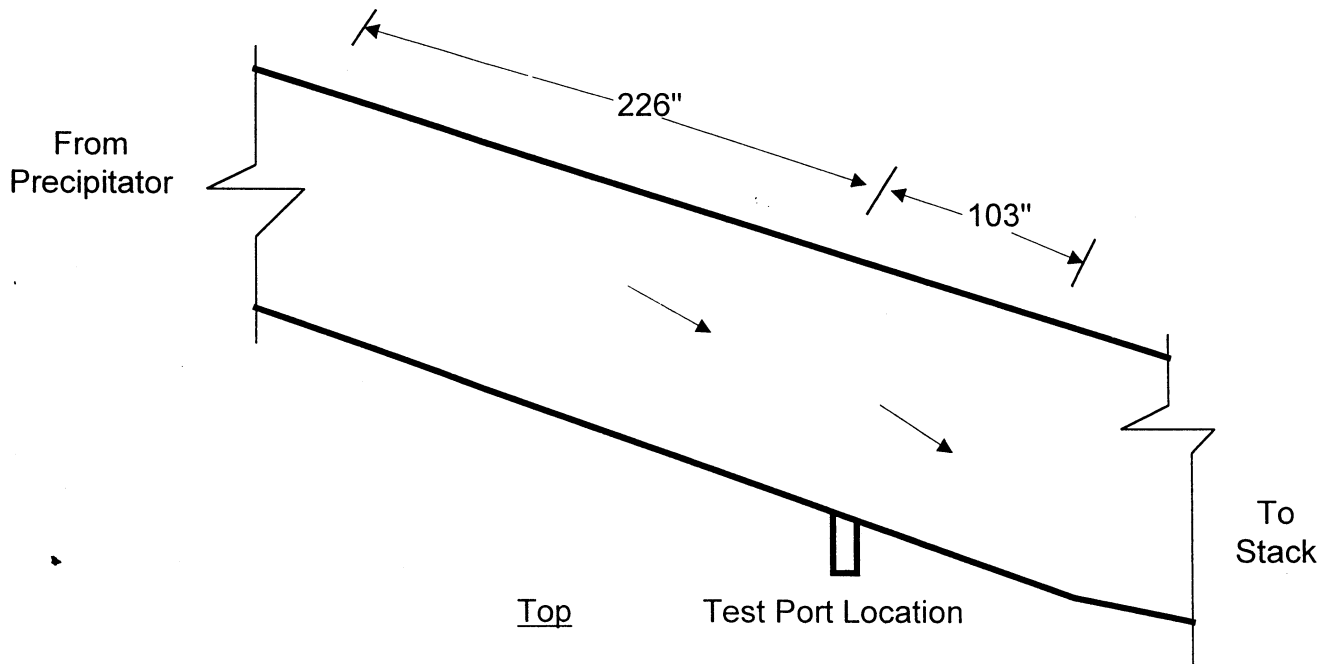
Distance Between Points: 1.81 Feet

*Two (2) outlet ducts exist. Only one (1) was traversed for mercury concentration. The plant flow monitor was utilized for total gas flow.

Note: East and West Precipitator Outlets are Mirror Images



Side



Top

3.0 SUMMARY AND DISCUSSION OF TEST RESULTS

3.1 Objectives and Test Matrix

The purpose of the test program was to quantify mercury emissions from this unit. This information will assist the USEPA Administrator in determining whether it is appropriate and necessary to regulate emissions of Hazardous Air Pollutants (HAPs) from electric utility steam generating units. The specific objectives, in order of priority were:

- Compare mass flow rates of mercury at the three sampling locations (fuel, one (1) inlet to and one (1) outlet from the precipitator).
- Measure speciated mercury emissions at the outlet.
- Measure speciated mercury concentrations at the inlet of the last air pollution control device.
- Measure mercury and chlorine content from the fuel being used during the testing.
- Measure the oxygen and carbon dioxide concentrations at the inlet and the outlet.
- Measure the volumetric gas flow at the inlet and the outlet.
- Measure the moisture content of the flue gas at the inlet and the outlet.
- Provide the above information to the USEPA for use in establishing mercury emission factors for this type of unit.

The test matrix is presented in Table 3-1. The table shows the testing performed at each location, methodologies employed and responsible organization.

Table 3-1 TEST MATRIX FOR DUNKIRK POWER						
Sampling Location	No. of Runs	Parameters	Sampling Method	Sample Run Time (min)	Analytical Method	Analytical Laboratory
Outlet	3	Speciated Hg	Ontario Hydro	120	EPA SW846 7470	TEI
Outlet	3	Moisture	EPA 4	120	Gravimetric	Mostardi Platt
Outlet	3	Flow	EPA 1 & 2	120	Pitot Traverse	Mostardi Platt
Outlet	3	O ₂ /CO ₂	EPA 3	120	Orsat	Mostardi Platt
Inlet	3	Speciated Hg	Ontario Hydro	120	EPA SW846 7470	TEI
Inlet	3	Moisture	EPA 4	120	Gravimetric	Mostardi Platt
Inlet	3	Flow	EPA 1 & 2	120	Pitot Traverse	Mostardi Platt
Inlet	3	O ₂ /CO ₂	EPA 3	120	Orsat	Mostardi Platt
Fuel Feeders	3	Hg, Cl in Fuel	Grab	1 Sample Per Feeder Per Run	ASTM D3684 (Hg) ASTM D4208 (Cl)	CTE

3.2 Field Test Changes and Problems

There were no field changes or problems encountered during this test program.

3.3 Presentation of Results

3.3.1 Mercury Mass Flow Rates

The mass flow rates of mercury determined at each sample location are presented in Table 3-2.

Table 3-2 SUMMARY OF RESULTS				
Sample Location	Elemental Mercury (lb/hr)	Oxidized Mercury (lb/hr)	Particle-Bound Mercury (lb/hr)	Total Mercury (lb/hr)
<u>Fuel</u>				
Run 1				0.00938
Run 2				0.00936
Run 3				0.00915
Average				0.00929
<u>Precipitator Inlet*</u>				
Run 1	0.00263	0.00800	0.00017	0.01081
Run 2	0.00132	0.00819	0.00025	0.00976
Run 3	0.00303	0.00873	0.00033	0.01209
Average	0.00233	0.00831	0.00025	0.01089
<u>Precipitator Outlet*</u>				
Run 1	0.00326	0.00611	0.00037	0.00974
Run 2	0.00214	0.00396	0.00013	0.00623
Run 3	0.00335	0.00563	0.00006	0.00904
Average	0.00292	0.00524	0.00019	0.00834

*The CEM stack flow was used to calculate the emission rates for the inlet and outlet test locations.

3.3.2 Comparison of Volumetric Flow Rate

Volumetric flow rate is a critical factor in calculating mass flow rates. Ideally, the volumetric flow rate (corrected to standard pressure and temperature) measured at the inlet to the control device should be the same as that measured at the stack, which should be the same as that measured by the CEMS. The control device at this facility has two inlets and two outlets. The flow rates of this test program were determined at one of the inlets and one of the outlets. The volumetric flow rates of the three locations on a thousand standard cubic foot per minute basis (KSCFM) are given in Table 3-3. A comparison of the locations could not be made since the measurements are only representative of one half of the total volumetric flow.

<p align="center">Table 3-3 COMPARISON OF VOLUMETRIC FLOW RATE DATA</p>					
Run No.	Inlet ¹		Outlet ¹		CEMS Stack ²
	KSCFM	KDSCFM	KSCFM	KDSCFM	KSCFM
Run 1	126.0	115.9	111.1	102.8	306.3
Run 2	125.0	114.0	110.2	101.2	297.4
Run 3	123.3	112.9	110.3	101.8	299.8
Average	124.8	114.3	110.5	101.9	301.2

¹ Flow rates were measured at one of the inlet and one of the outlet test locations

² Stack flow rates represent total flow of the system.

3.3.3 Individual Run Results

A detailed summary of results for each sample run at the precipitator inlet and outlet are presented in Tables 3-4 and 3-5, respectively.

3.3.4 Process Operating Data

The process operating data collected during the tests is included in Appendix A. A summary of the coal usage and mass emission rate of mercury available from coal are presented in Table 3-6.

Table 3-4
PRECIPITATOR INLET INDIVIDUAL RUN RESULTS

Test Run Number:	1	2	3	Average
Source Condition	Normal			
Fuel Factor, dscf/10 ⁶ Btu	9751	9676	9655	
Date	10/12/99	10/13/99	10/13/99	
Start Time	16:20	9:00	13:00	
End Time	18:56	11:35	15:09	
Elemental Mercury:				
ug detected	3.453	1.637	<3.323	<2.804
ug/dscm	2.49	1.28	2.93	2.23
lb/hr (one inlet)	0.00108	0.00055	0.00124	0.00096
lb/hr (both inlets, based on CEM scfh)	0.00263	0.00132	0.00303	0.00233
lb/10 ¹² Btu	2.00	1.01	2.24	1.75
Oxidized Mercury:				
ug detected	10.488	10.188	9.508	10.061
ug/dscm	7.56	7.97	8.43	7.99
lb/hr (one inlet)	0.00328	0.00340	0.00357	0.00342
lb/hr (both inlets, based on CEM scfh)	0.00800	0.00819	0.00873	0.00831
lb/10 ¹² Btu	6.09	6.29	6.44	6.27
Particle-bound Mercury:				
ug detected	<0.228	<0.319	<0.361	<0.303
ug/dscm	0.16	0.25	0.25	0.22
lb/hr (one inlet)	0.00007	0.00011	0.00013	0.00010
lb/hr (both inlets, based on CEM scfh)	0.00017	0.00025	0.00033	0.00025
lb/10 ¹² Btu	0.13	0.20	0.24	0.19
Total Inlet Speciated Mercury:				
ug/dscm	10.22	9.50	11.61	10.44
lb/hr (one inlet)	0.00444	0.00406	0.00494	0.00448
lb/hr (both inlets, based on CEM scfh)	0.01081	0.00976	0.01209	0.01089
lb/10 ¹² Btu	8.23	7.50	8.92	8.21
Average Gas Volumetric Flow Rate:				
@ Flue Conditions, acfm	255,170	255,957	253,331	254,819
@ Standard Conditions, dscfm	115,935	113,979	112,886	114,266
CEM Stack Flow Rate, scfh	18,376,259	17,845,712	17,987,084	18,069,685
Average Gas Temperature, °F	578.1	580.1	583.5	580.6
Average Gas Velocity, ft/sec	57.50	57.68	57.09	57.42
Flue Gas Moisture, percent by volume	8.00	8.83	8.47	8.43
Average Flue Pressure, in. Hg	29.05	28.79	28.79	
Barometric Pressure, in. Hg	29.86	29.56	29.56	
Average %CO ₂ by volume, dry basis	13.9	13.8	14.0	13.9
Average %O ₂ by volume, dry basis	5.1	4.9	4.4	4.8
% Excess Air	31.32	29.58	25.67	28.86
Dry Molecular Wt. of Gas, lb/lb-mole	30.428	30.404	30.416	
Gas Sample Volume, dscf	48.966	45.129	39.809	
Isokinetic Variance	99.5	93.2	99.6	

**Table 3-5
PRECIPITATOR OUTLET INDIVIDUAL RUN RESULTS**

Test Run Number:	1	2	3	Average
Source Condition	Normal			
Fuel Factor, dscf/10 ⁶ Btu	9751	9676	9655	
Date	10/12/99	10/13/99	10/13/99	
Start Time	16:15	9:00	13:00	
End Time	18:56	11:40	15:42	
Elemental Mercury:				
ug detected	9.693	6.527	<10.133	<8.784
ug/dscm	3.08	2.08	3.23	2.80
lb/hr (one outlet)	0.00119	0.00079	0.00123	0.00107
lb/hr (both outlets, based on CEM scfh)	0.00326	0.00214	0.00335	0.00292
lb/10 ¹² Btu	2.61	1.74	2.67	2.34
Oxidized Mercury:				
ug detected	18.188	12.088	16.988	15.755
ug/dscm	5.78	3.86	5.44	5.03
lb/hr (one outlet)	0.00222	0.00146	0.00207	0.00192
lb/hr (both outlets, based on CEM scfh)	0.00611	0.00396	0.00563	0.00524
lb/10 ¹² Btu	4.89	3.22	4.50	4.20
Particle-bound Mercury:				
ug detected	<1.109	<0.396	<0.171	<0.559
ug/dscm	0.35	0.13	0.05	0.18
lb/hr (one outlet)	0.00014	0.00005	0.00002	0.00007
lb/hr (both outlets, based on CEM scfh)	0.00037	0.00013	0.00006	0.00019
lb/10 ¹² Btu	0.30	0.10	0.04	0.15
Total Outlet Speciated Mercury:				
ug/dscm	9.21	6.07	8.73	8.00
lb/hr (one outlet)	0.00355	0.00230	0.00333	0.00306
lb/hr (both outlets, based on CEM scfh)	0.00974	0.00623	0.00904	0.00834
lb/10 ¹² Btu	7.79	5.06	7.22	6.69
Average Gas Volumetric Flow Rate:				
@ Flue Conditions, acfm	221,337	222,477	223,072	222,295
@ Standard Conditions, dscfm	102,785	101,229	101,795	101,936
CEM Stack Flow Rate, scfh	18,376,259	17,845,712	17,987,084	18,069,685
Average Gas Temperature, °F	560.1	563.4	564.4	562.6
Average Gas Velocity, ft/sec	50.88	51.14	51.28	51.10
Flue Gas Moisture, percent by volume	7.50	8.11	7.74	7.79
Average Flue Pressure, in. Hg	29.02	28.71	28.71	
Barometric Pressure, in. Hg	29.86	29.56	29.56	
Average %CO ₂ by volume, dry basis	12.4	13.1	13.4	13.0
Average %O ₂ by volume, dry basis	5.9	5.8	5.7	5.8
% Excess Air	37.36	36.82	36.09	36.76
Dry Molecular Wt. of Gas, lb/lb-mole	30.224	30.321	30.371	
Gas Sample Volume, dscf	111.125	110.619	110.253	
Isokinetic Variance	99.1	100.2	99.3	

**Table 3-6
COAL USAGE RESULTS**

Test Run Number:	1	2	3	Average
Source Condition	Normal			
Date	10/12/99	10/13/99	10/13/99	
Start Time	16:15	9:00	13:00	
End Time	18:56	11:40	15:42	
Coal Properties:				
Carbon, % dry	77.36	77.30	76.04	76.90
Hydrogen, % dry	5.11	5.13	5.07	5.10
Nitrogen, % dry	1.54	1.56	1.50	1.53
Sulfur, % dry	2.31	2.23	2.25	2.26
Ash, % dry	7.40	7.80	8.92	8.04
Oxygen, % dry (by difference)	6.28	5.98	6.22	6.16
Volatile, % dry	37.05	36.96	36.86	36.96
Moisture, %	5.76	5.10	6.60	5.82
Heat Content, Btu/lb dry basis	13907	14022	13819	13916
F _d Factor O ₂ basis, dscf/10 ⁶ Btu	9751	9676	9655	9694
F _c Factor CO ₂ basis, scf/10 ⁶ Btu	1786	1770	1766	1774
Chloride, ug/g dry	811.0	925.0	880.0	872.0
Mercury, ug/g dry	0.13	0.13	0.13	0.13
Coal Consumption:				
Total Raw Coal Input, Klbs/hr	76.53	75.85	75.32	75.90
Total Coal Input, lbs/hr dry	72122	71982	70349	71484
Total Mercury Available in Coal:				
Mercury, lbs/hr	0.00938	0.00936	0.00915	0.00929
Mercury, lbs/10 ¹² Btu	9.35	9.27	9.41	9.34

4.0 SAMPLING AND ANALYTICAL PROCEDURES

4.1 Test Methods

4.1.1 Speciated mercury emissions

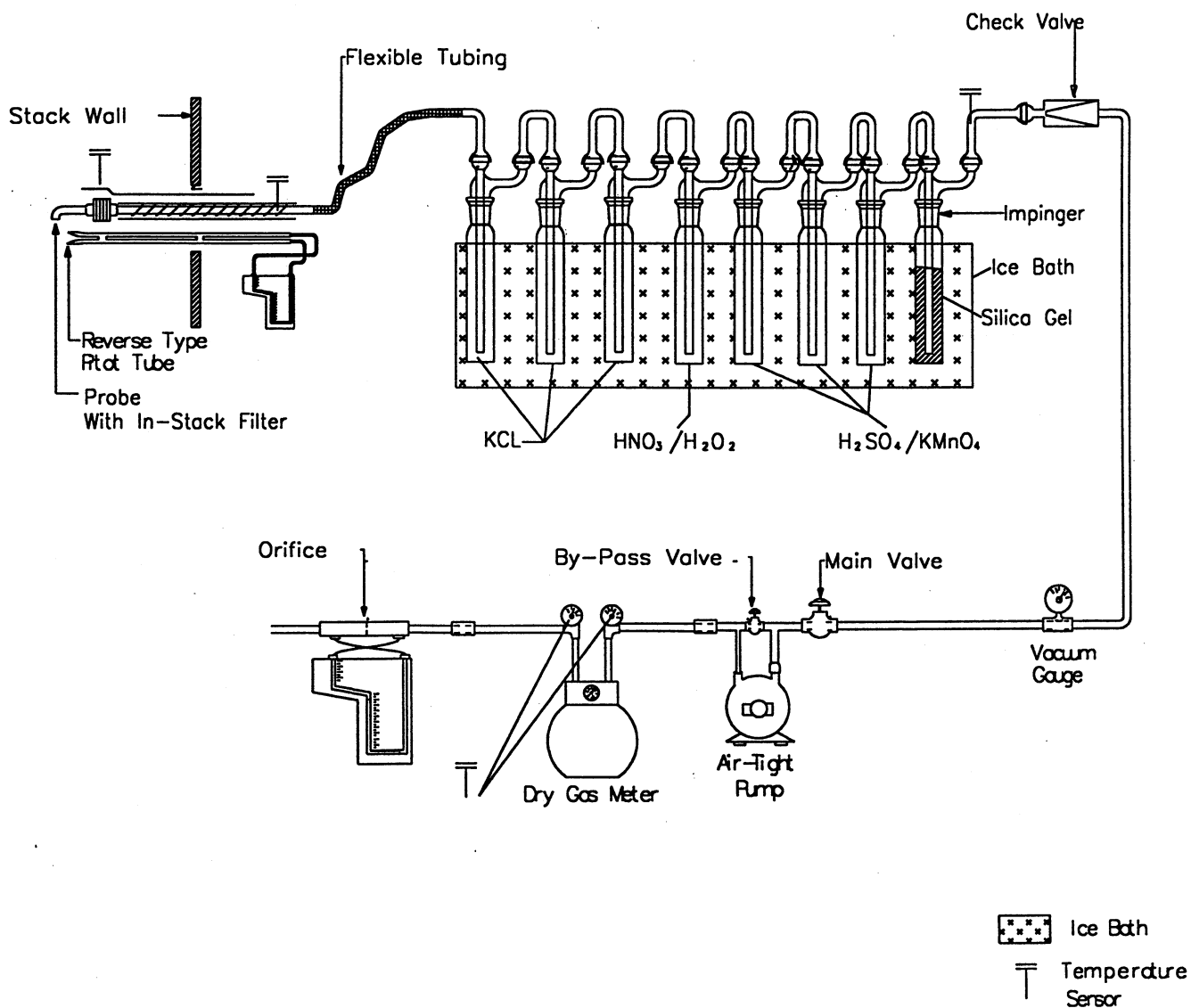
Speciated mercury emissions were determined via the draft "Standard Test Method for Elemental, Particle-Bound, and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario-Hydro Method)", dated April 8, 1999. Any revisions to this test method issued after April 8, 1999, but before July 1, 1999, were incorporated.

The in-stack filtration (Method 17) configuration was utilized at the precipitator inlet and outlet test locations. Figure 4-1 is the schematic of the Ontario-Hydro sampling train.

Figure 4-2 illustrates the sample recovery procedure. The analytical scheme was per Section 13.3 of the Ontario-Hydro Method.

Speciated Mercury Sampling Train Equipped with In-Stack Filter

Ontario Hydro Method



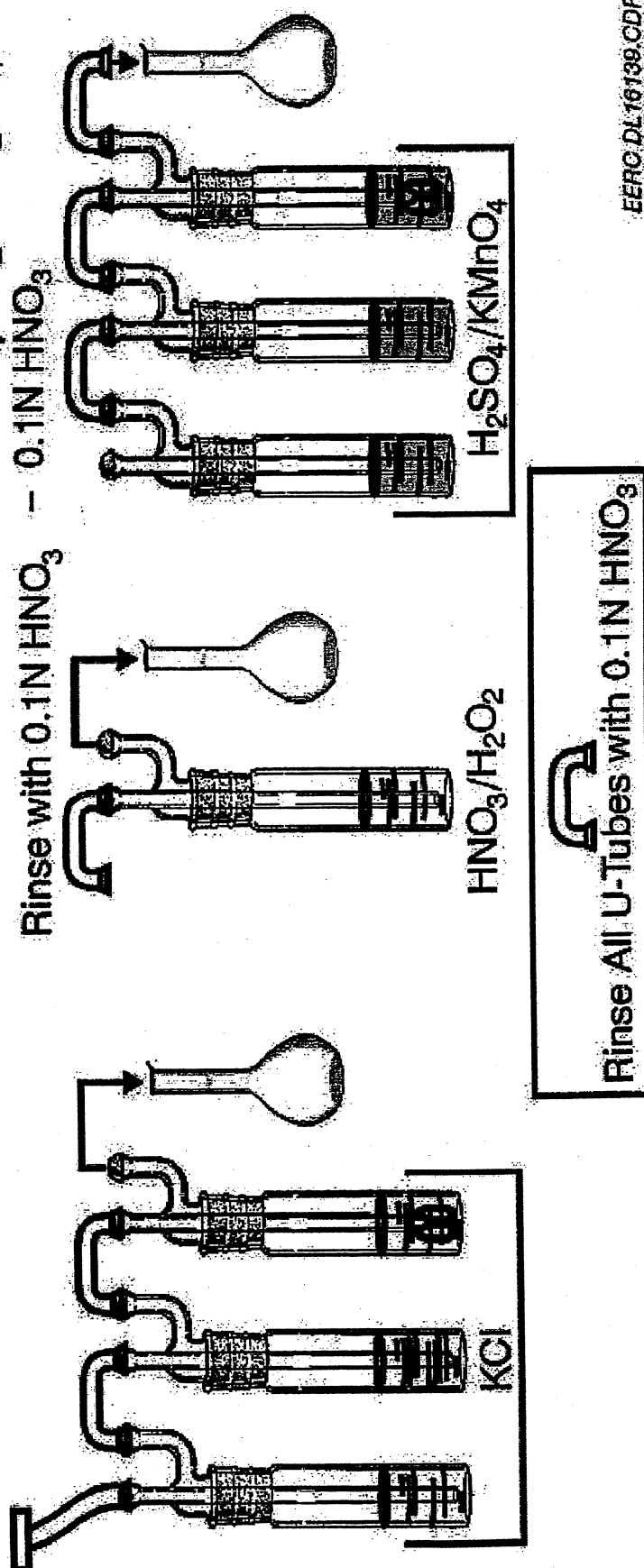
Mostardi Platt

A Full Service Environmental Consulting Company

1. Rinse filter holder and connector with 0.1N HNO_3 .
2. Add 5% w/v KMnO_4 to each impinger bottle until purple color remains.
3. Rinse with 10% v/v HNO_3 .
4. Rinse with a very small amount of 10% w/v $\text{NH}_2\text{OH}\cdot\text{H}_2\text{SO}_4$ if brown residue remains.
5. Final rinse with 10% v/v HNO_3 .

Rinse Bottles Sparingly with

- 0.1N HNO_3
- 10% w/v $\text{NH}_2\text{OH}\cdot\text{H}_2\text{SO}_4$
- 0.1N HNO_3



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Figure 4-2: Sample Recovery Scheme for Ontario-Hydro Method Samples

4.1.2 Fuel samples

Fuel samples were collected by composite sampling. Three samples were collected at equally spaced intervals during each speciated mercury sampling run. Each set of three samples was composited into a single sample for each sample run. Sample analysis was conducted according to the procedures of ASTM D3684 and ASTM D4208.

4.2 Procedures for Obtaining Process Data

Plant personnel were responsible for obtaining process-operating data. The process data presented in Table 3-6 was continuously monitored by the facility. Process data was averaged over the course of each sample run.

4.3 Sample Identification and Custody

The chain-of-custody for all samples obtained for analysis can be found in Appendix E.

5.0 INTERNAL QA/QC ACTIVITIES

All sampling, recovery and analytical procedures conform to those described in the site specific test plan. All resultant data was reviewed by the laboratory and Mostardi Platt per the requirements listed in the QAPP and were determined to be valid except where noted below.

5.1 QA/QC Problems

Reagent blanks are required to be less than ten times the detection limit or ten percent of the sample values found.

The reagent blank, Sample ID #037, for $\text{KMNO}_4/\text{H}_2\text{SO}_4$ was found to be $0.127\mu\text{g}$ which is more than ten times the detection limit of $0.003\mu\text{g}$. This value was however, less than ten percent of the results for the $\text{KMNO}_4/\text{H}_2\text{SO}_4$ impingers and therefore the data does not need to be qualified.

5.2 QA Audits

5.2.1 Reagent Blanks

As required by the method, blanks were collected for all reagents utilized. The results of reagent blank analysis are presented in Table 5-1.

Table 5-1 REAGENT BLANK ANALYSIS				
Sample ID #	Sample Fraction	Contents	Mercury (µg)	Detection Limit (µg)
034	Front-half	0.1N HNO ₃ /Filter	<0.002	0.002
035	1 N KCl	1 N KCl	0.012	0.003
036	HNO ₃ /H ₂ O ₂	HNO ₃ /H ₂ O ₂	<0.007	0.007
037	KMnO ₄ /H ₂ SO ₄	KMnO ₄ /H ₂ SO ₄	0.127	0.03

5.2.2 Blank Trains

As required by the method, blank trains were collected at both the inlet and stack sampling locations. These trains were collected on October 12, 1999. The results of blank train analysis are presented in Table 5-2.

Table 5-2 BLANK TRAIN ANALYSIS				
Sample ID #	Sample Fraction	Contents	Mercury (µg)	Detection Limit (µg)
031, 032, 033	Front-half	Filter	0.059	0.02
025	KCl impingers	Impingers/rinse	0.064	0.03
028	KCl impingers	Impingers/rinse	0.062	0.03
026	HNO ₃ -H ₂ O ₂ impingers	Impingers/rinse	<0.04	0.04
029	HNO ₃ -H ₂ O ₂ impingers	Impingers/rinse	<0.04	0.04
027	KMnO ₄ /H ₂ SO ₄ impingers	Impingers/rinse	0.550	0.03
030	KMnO ₄ /H ₂ SO ₄ impingers	Impingers/rinse	0.196	0.03

5.2.3 Field Dry Test Meter Audit

The field dry test meter audit described in Section 4.4.1 of Method 5 was completed prior to the test. The results of the audit are presented in Appendix C.